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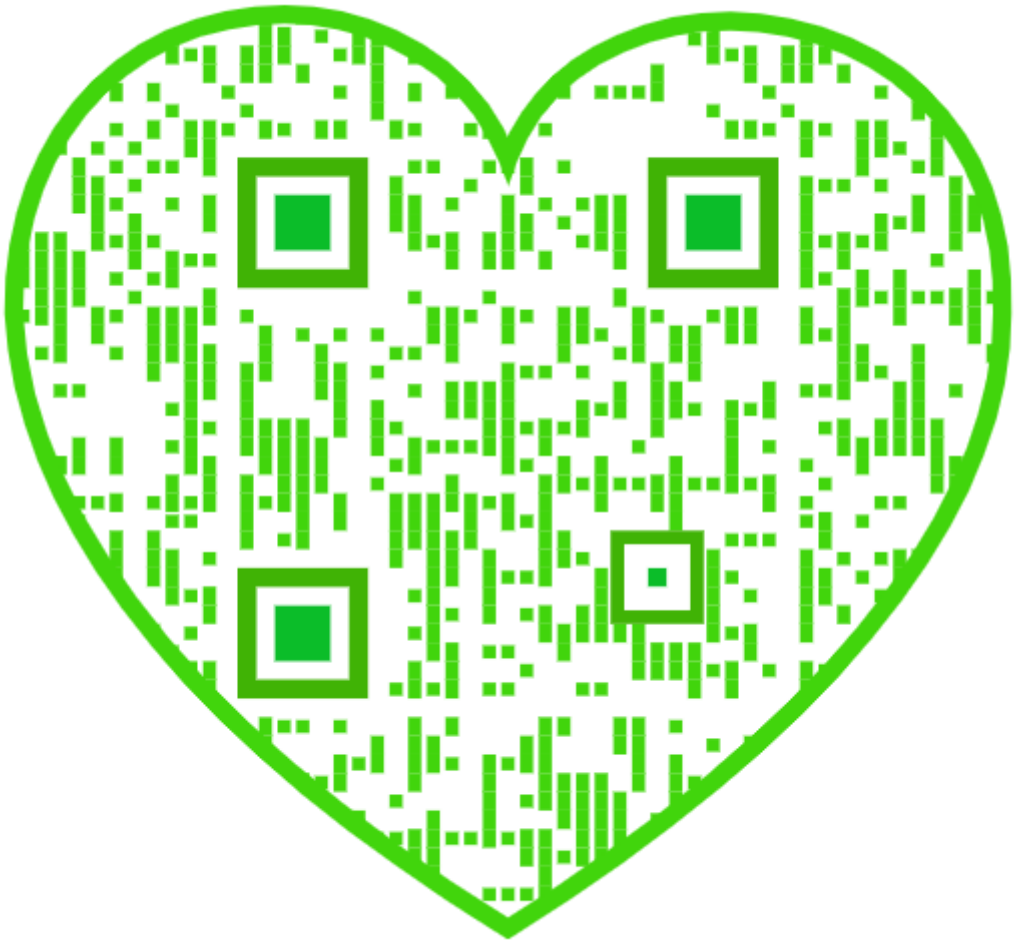
SPECTACLES



SPECTACLES:

WHY AND WHEN TO USE THEM,

OR

Near and Far-Sightedness,

THE USE AND ABUSE OF GLASSES.

BY

DR. F. A. VON MOSCHZISKER,

OCULIST AND AURIST.

Oculus ad vitam nihil facit ad vitam beatam nihil magis.

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TO

PROFESSOR JOHN C. S. MONKUR, M.D.

My Dear Doctor:

To you, who has evinced the greatest kindness towards me from the day I had the honor of your acquaintance, and who has watched with pleasure and interest the result and success of several difficult cases you recommended to my treatment, and assisted me in a surgical operation on the Eye, I beg, by your permission, to inscribe this little book as a testimony of respect for your talents, and token of gratitude from

Your friend and obedient servant,

F. A. von Moschzisker.

PREFACE.

I never read Prefaces, why should I write them, once wrote a wise man. It was my wish to say the same, yet some remarks are necessary, and those are: "I have inserted nothing in these pages but what wise men have stated."

I acted on the principle, "We ought not, like the spider, to spin a flimsy web wholly from our own materials, but, like the industrious bee, visit every store and cull the most useful and the best.

Every advice, I may say, which these pages contain, is supported by the authority of the most scientific and standing works on the subject.

The Eye, though diminutive in point of size to every other part of the body, is nevertheless the most important, the most attractive, and most inimitably beautiful. Therefore, reader, judge not this little book by its size.

I wrote it to be read, and in a very short space

of time; and I promise each reader his share of benefit and instruction when diligently perused. But if he be so blind not to see the good, I have only to say the sooner he uses the wise man's spectacles, or seeks the advice of a good Teacher or an Oculist, the better for him.

Dr. F. A. von Moschzisker,
Oculist and Aurist,
34 Hanover Street.

SPECTACLES:

WHY AND WHEN TO USE THEM.

CHAPTER I.

The human Eye is subject to two defects of vision, which are not dependent upon the optic nerve but upon the refractive powers of the Eye. These two defects of vision are Near-Sight and Far-Sight.

They are produced by certain configurations of the transparent media, and happen in conformity to the general law of optics. The rays of light are either collected too soon, brought together before they reach the bottom of the Eye, rendering the person *myopic*, or near-sighted; or they are not brought together in front of the Retina,* the focus in which they would meet being

* Retina (ret, a net), the nervous expansion on the inner surface of the Eye for receiving the impression of light.

behind the situation of that membrane, so that the person is *Presbyopic*, or far-sighted. These kinds of sight are consequent upon some conditions of the transparent media of the Eye, which in all other respects, is perfectly natural. The Eye, being in a great part of its functions a mechanical instrument, must be subjected to mechanical laws; and we find that a given configuration of the transparent media, a certain relation of them to each other, and their position at determinate distances from the Retina, are necessary to the formation of a distinct picture upon that nervous expansion. There is a certain distance from the Eye, which is called the point of distinct vision, at which we can see objects in all their details with perfect clearness. Every Eye, considered as an optical instrument, has its point of distinct vision; the latter, therefore, varies in different persons, and is often different in the two Eyes of the same individual. Objects are not so distinctly seen, when moved nearer to, or further from the Eye, than this point. In ordinary well-constructed Eyes, the distance

ranges from about fifteen to twenty inches. It must be observed, however, that they are peculiarly strong Eyes which can see distinctly beyond these limits on either side. Persons who are obliged to hold objects much closer to the Eye than the distance already mentioned are called myopic, or near-sighted. Those affected with the greatest degree of near-sightedness, remarks Dr. W. Mackenzie,* bring every object which they wish to see clearly, to the distance of two or three inches, or even as close as one inch from the eye, while other myopic persons are able to enjoy as good vision, although the object is at six or nine inches distance. The Eye which perceives nothing distinctly beyond ten inches may be considered myopic. The imperfection, then, cannot be concealed, if the individual affected with it attempts to read or to examine any small object minutely. If we direct his attention to objects at any considerable distance, it is evident that they either make no impression

* Practical Treatise on Diseases of the Eye. Dr. Mackenzie, Oculist, Glasgow.

on his Retina, or one which is exceedingly indefinite and obscure. He cannot distinguish the countenances of the performers on the stage, nor the subject of pictures placed a few feet above his head; he cannot read inscriptions on doors and houses, nor recognise persons across the street; if he go into a large room, in which there are many persons, he cannot readily distinguish those he knows. Short-sighted persons generally attribute to distant objects greater magnitude than do those who have a good common sight. The reason is, that while distinct images are formed in the perfect Eye only at the intersections of the rays of light issuing from the object, the short-sighted Eye receives on the Retina all those rays beyond their intersection, and consequently at a point where they are more extended.

If a near-sighted person looks through a pin-hole in a card, he can distinguish objects clearly at a greater distance than before; this is effected by excluding the circumferential rays, which, by their too speedy convergence, would tend to form *foci* before they reach the Retina, and thus cause

indistinctness of vision. The Pupils of the Eyes of myopic persons are generally large, and their habit of half closing the lids when looking at distant objects is upon the same principle, that is, for the purpose of excluding all but the central and direct rays.

The area of the halo formed by each point depends on the diameter of the Pupil; being greater, the greater that diameter. Hence it obviously follows that by diminishing the aperture through which the light is admitted, the halo will be less extensive, and the images of the adjacent points more distinct, or in other words, vision will be clearer.

I shall in a separate chapter speak more fully of Glasses and their importance, but I will here add that the Glasses commonly employed for the assistance of myopic Eyes are double concaves, of equal concavity on each side. Occasionally, however, the two sides are made of unequal depth. A plano-concave Glass might answer; and in the use of concavo-convexes (the exterior surface of the Glass, or that which is turned from

the Eye, being convex, and having a less degree of curvature than the interior, or that which is turned towards the Eye, which is concave), there is supposed to be a considerable advantage, in so far as they allow the Eyes a greater degree of latitude in vision without fatigue, whence the name *periscopic* Glasses, under which they were recommended by Dr. Wallaston.

Great judgment and discrimination are required before giving a decision as to the propriety of a person having recourse to Spectacles, or the kind of Glass we should advise, and many points should be borne in mind before assenting to their use. We should first satisfy ourselves that the impairment of vision does not arise from diminished sensibility of the Retina, and that the case is not one of incipient amaurosis: if it be so, the temporary comfort occasionally afforded by the aid of Glasses will be purchased at the price of more speedy extinction of vision; and we discover, when too late, that measures very different to those recommended would have been the means, perhaps, of rescuing the individual from

the horrors of blindness. If the case is supposed to be one of myopia, we should carefully ascertain that the defective vision arises from an alteration in the powers of the refractive media, and is not the consequence of the Eye having lost the power of adapting itself to the focus for distant objects.

In the latter case we should commit a grave error in using Glasses; their employment are absolutely dangerous.

There cannot be a greater error than that committed daily by entering into a store and purchasing Glasses without having first ascertained from an experienced physician if such would be advisable or what Glasses they ought to use. Imperfect or badly chosen Glasses we have no hesitation to state, are to the Eyes what a slow poison would be to the body.

The rules for selecting Glasses are of paramount importance, and can only be trusted to an experienced Oculist or a good and trustworthy Optician.

We frequently desire, says an eminent English

Oculist, to alter the relations which exist between the power of the refracting humours and the distance of the Retina, and for this purpose we employ lenses which magnify or diminish, or which applied to the Eye lengthen or shorten its focal distance. Before any kind of Spectacles are adopted which either magnify or diminish, it is very necessary that we should have a thorough knowledge of the optical properties of the Eye and the defects which we seek to remedy by optical contrivances. To effect this object, *Chevalier*, the world-renowned Optician, has contrived a most wonderful instrument called Optometer,* which should invariably be employed before Spectacles are sold to any applicant.

Persons entering into a store where a number of Glasses are placed before them for their selection, are frequently induced by the pleasure they

* I have at a great cost and trouble obtained the instrument, and find it of the utmost use and very valuable. I have also Dr. Desmarre's Opthalmascope, an instrument which enables the Oculist to look into the depth of the Eye and ascertain the exact condition of the optic nerve and Retina.

derive from looking at objects through a high power to have recourse to that power; at first it certainly renders objects clearer and defines them more sharply, but after a time the effect passes away, and a still higher number is sought after; for although the Eye will become accustomed to undue and continued excitement, yet its susceptibility is diminished thereby, never perhaps to be restored.

Dr. Kitchener has written so sensibly, and withal so feelingly, upon the evil consequences resulting from a too frequent change of Glasses that I shall quote his words: *

"Being a short-sighted mortal myself," says he, "I write this chapter with confidence, from my own experience of upwards of thirty-one years, and hope to be able to give some good advice to those who are unfortunately what is called near-sighted. I was about fifteen years old when I first discovered that I could not discern distant objects so distinctly as people who

* The Economy of the Eyes.

have common Eyes usually do; and seeing I could not see what persons with common Eyes frequently pointed out to me as well-deserving my attention, I paid a visit to an Optician and purchased a concave Eye-Glass, No. 2.

"After using this for some time, I accidentally looked through a concave No. 3, and finding my sight much sharper with this than with No. 2, had my Spectacles glassed No. 3, which appeared to afford my eye as much assistance as it could receive.

"After using No. 3 for a few months, I chanced to look through No. 4, and again found the same increase of sharpness, etc., which I perceived before when I had been using No. 2, and first saw through No. 3; therefore concluded that I had not yet got Glasses sufficiently concave, and accordingly procured No. 4. However, this soon became no more stimulus to the optic nerve than its predecessors, Nos. 2 and 3, had been.

"I then began to think that the sight is subject to the same laws which govern the other

parts of our system, *i. e.*, an increased stimulus by repetition soon loses its power to produce an increased effect; therefore I refused my eye any further assistance than it received from Spectacles glassed No. 2, which I have worn upwards of thirty-one years, and it is very nearly, if not quite, as sufficient help to me now, as it was when I first employed it, giving me a sight (for objects at a moderate distance), as I find by comparison, about upon a par with common eyes."

Dr. Bonnet, of Lyons, was of opinion that one form of near-sight arises from the muscles of the Eye-Ball acting so energetically on it as to elongate its anterior axis, thus rendering the Cornea* unnaturally prominent; and he attempted to remove some of the pressure by dividing the inferior oblique muscle. In nine cases, he states, in which this operation was performed, the distance of distinct vision for reading was nearly doubled, and that for distant objects trebled, or even quadrupled.

* Cornea, (cornu, horn,) the anterior transparent portion of the globe.

Dr. Guerin, in a communication to the Academy of Sciences, describes two species of myopia, the *mechanical* and the *optical*. The mechanical he considers to result either from the original shortness, or undue contraction of the four recti muscles together, or of two or three only. In such cases, Dr. Guerin recommends the subconjunctival division of the short or contracted muscle. He relates a case of a young woman in whom he states that he divided all the four recti muscles with great alleviation of the symptoms !

It may be a question, however, whether either of these remedies is not worse than the disease, more especially as relief can always be afforded by well-selected Glasses.

CHAPTER II.

PRESBYOPIA, OR AGED SIGHT.

In this species of sight, near objects are seen confusedly, but remote ones more distinctly.

Thus, women who are long-sighted, when they thread a needle, remove the needle and thread to some distance from their Eyes; old men also, that they may read more distinctly, remove books beyond the distance of eight inches from their Eyes.

The theory of this is easy, from the preceding one; the cause is the too late union of the rays coming from near objects, which is performed beyond the Retina.

The principles are: first, a lesser convexity of the Cornea, and of one or both faces of the Chrystalline, so that the curvature of them is a portion of a larger sphere. Secondly, a too great distance of the Cornea or Chrystalline, or both, from the Retina. Thirdly, the refractive power of the pellucid bodies of the Eye, less than usual. Fourthly, a too great proximity of objects.

Fifthly, a narrowness of the Pupil, which the Greeks call *Phtisis*.

By means of each, and much more by the concourse of all these principles, it happens that the rays issuing from proximate objects are united too late, and advance the focus beyond the Retina, from whence there cannot be a distinct vision, for the luminous pyramid is cut off from the Retina with its rays not yet collected together into the apex of the cone; therefore every point of the object paints a spot on the Retina, the same as in short-sighted persons, with this difference only, that the spot is made by rays not yet united together, and in short-sighted persons by rays already united and again expanded.

Old-sighted persons, in order that they may see distinctly, require a great light: on the contrary, myopes, or short-sighted persons, as has been shown, require but a small light to enable them to read; for the former have a Retina more rigid from age, a narrower Pupil, and objects more remote — all which lessen the clearness of sight: therefore those defects should be compen-

sated by a greater splendor or illumination of an object. Far-sighted persons can see distant inscriptions, or distinguish the hour by a distant church clock, when they cannot read a common print held in their own hands or see the figures and hand of a watch. This state of the organ must be remedied by the use of a convex Glass, which, bringing together the divergent rays proceeding from near objects, remedies the deficient refractive power of the Eye. The Glasses must be chosen under the same restriction as I spoke of in the last chapter.

"It would evidently be absurd," says Dr. Lawrence, "to fix upon any period of life at which Glasses should be first employed, or at which the presbyopic Eye should be assisted by stronger magnifiers than those made choice of in the first instance; but it may be laid down as a general rule, that whenever a person of forty-five years of age, or upwards, finds that, in order to see small objects distinctly, he is obliged to carry them far from his Eyes, that he moves, as it were instinctively, nearer to the light, when

he wishes to read or work, or holds the book or other objects close to the light, in order to see with facility; that very small objects, after he has looked at them earnestly for some time, appear confused; that his Eyes, after slight exertion, become so much fatigued that he is obliged to turn them to other objects in order to give them some relaxation; and that the sight on awaking in the morning is very weak, and does not recover its customary degree of force for some hours; then, he may, if he has not hitherto used convex Glasses, begin to use them, or if he has already had recourse to those of a very long focus, he should change them for a pair of shorter focus, or in other words, of a greater refractive power — but let him first consult an Oculist what would be best for him."

The following remarks by Dr. Mackenzie on the use of Glasses are very judicious:

"The assistance which the presbyopic Eye derives from a double convex Glass, ought neither to be too soon had recourse to, nor too long delayed. Many injure their sight by adopting

the use of magnifiers suddenly, and before they have any need of them; while others, actuated perhaps by a desire of concealing their age, refrain from employing them long after the period when Glasses would not merely have afforded valuable assistance, but have proved a means of saving their sight. I have seen a public lecturer rejecting, from some silly motive, the aid of convex Glasses at seventy years of age, assemble on and at the side of his desk six glaring wax candles, in order to illuminate his manuscript, and while he kept one of the candles, shorter than the rest, dancing over the paper, he yet stopped ever and anon from difficulty in deciphering it. Such conduct is as dangerous to sight as it is ridiculous. The presbyopic Eye, if refused assistance, is necessarily strained by every attempt to perceive near objects, and suffers more in a few months by forced exertion than it would do in as many years, if assisted by such Glasses as would render vision easy and agreeable."

One of my own teachers, and one dear and near to me, has most poetically expressed him-

self on that subject, and I will here introduce what he so beautifully, so feelingly and so justly states:

"The sun of our animal existence has been wisely ordained to travel at so slow a rate, that his progress is almost imperceptible; and so ardently do we love to bask in his rays, that when time whispers to us he has passed the meridian, we vainly endeavor to persuade ourselves that he may have mistaken the point of his culumination."

I have already said that the failure of the sight is one of the earliest premonitory symptoms of declining years, but there is often a strong disinclination to admit this failure, at any rate, we are not willing to proclaim it by adopting Glasses. Their use, we say again, and cannot repeat it too often, should not be deferred; for although it is a common notion that Spectacles are injurious to the Eyes (and no doubt they are so, and very dangerous, if those of an improper description be employed), yet when the powers of the Eye so begin to fail that we can neither read nor write

for any length of time without great discomfort, it is reasonable to conclude refraining from their use is more injurious than their adoption. We, therefore, who prize the most valuable gift of nature, should be less anxious as to what others may think of our age, than for the preservation of so valuable a possession. The term "Preservers," applied as it has been to the lowest description of convex Glasses alone, tends to convey the idea that if such Glasses are used in time they prevent any further changes in the Eye. This is erroneous, and it is to be regretted that the lowest magnifying powers should have received that appellation, for all Glasses are "Preservers" if well adapted to the wants of the Eye, whereas by applying that term to those particular Glasses alone, thousands are induced to use them before they really require them, which is productive of injurious consequences, inasmuch as by assisting the Eye before it needs help, we encourage it to be indolent in its action. As a general rule for the presbyopic Eye, Glasses always act beneficially when they afford just so

much assistanee to the Eye in its attempts at adjustment, as enables it with but little fatigue to form a distinet pieture upon the Retina, rather than beyond it.

Having eonsidered the two defects of vision called *"Myopia"* and *"Presbyopia,"* and the benefit they derive from well-selected Glasses, we think it our duty, before we begin the next chapter, to subjoin the following remarks:

A general impression entertained by persons who find their sight failing, is that they require Glasses. As, however, the deterioration of vision may be caused by eommencing *amaurosis*, where Glasses would be highly improper, we deem it advisable to state some of the chief symptoms of this disease.

The symptoms of amaurosis are as follows:— Objeets are rendered dim by a haze or network before the Eyes; spots, threads, lines or strings of globules seem to be moving in the air, sometimes singly, at other times in great numbers, and under a variety of forms; lines of type appear confused and irregular, letters are dis-

torted; they may be magnified, or they may appear diminished in size: double vision is a common and important symptom. Sparks, flashes, or circles of fire annoy the patient, especially at night. Occasionally the flame of a candle appears to be surrounded by a colored halo: in other cases it may appear broken up into two or more flames. In reading, some of the letters, and even words, are lost. Sometimes the appearance of branches or hairs, or a perfect network is presented. The patient also experiences at times a dull pain in the head, the brow, or in the Eye itself. It is sometimes considerably advanced before the patient's suspicions are aroused, for it often arises without any known cause, and the appearance of the Eye to those who are unacquainted with the disease seems not changed — amaurosis is the most complicated, and for its cure requires the most scientific treatment of all the affections to which the Eye is subject.

If the patient perceive the existence of the above symptoms, or even a portion of them, it is

his duty to seek prompt advice of an Oculist, and the sooner the better for him.*

CHAPTER III.

GLASSES.

The adaptation of optical contrivances to amend disordered vision, is one of the most exalted applications of high abstract knowledge for the relief of the infirmities of man; thousands and tens of thousands are suffering from damaged vision caused by improper use of Glasses; and what would the sufferers not give if they could but retract their first wrong step? Vision has been insidiously and gradually damaged, and, therefore, the idea of its impairment has not been suddenly or forcibly brought before their mind; but had the defect come at once upon them, they would have been amazed and terrified. "It was once my lot," says Dr. Smee, "to severely injure my eye; and knowing my fear for its loss,

* We have treated several cases of amaurosis, and with very happy success. (See Appendix.)

I can appreciate what others would feel under similar circumstances. To Dr. Lawrence I owe a debt of gratitude which I can never repay. If I, as a surgeon, as an opthalmic surgeon, should after the lapse of many years, still feel this obligation, how deep a debt of gratitude should a patient feel for the Oculist, if, through his attention, their vision is preserved, improved, restored." To Dr. Lawrence, not only Dr. Smee, but every Oculist who has his profession at heart, owes a debt of gratitude for the services he has rendered to them by the able and most instructive work he has given them on Diseases of the Eye, and well may he exclaim in his classically written introduction, "If there are any to whom the pleasure connected with acquisition of knowledge, the satifaction flowing from the consciousness of important duties rightly performed, and the gratitude so warmly expressed for the inestimable benefits of averting blindness or restoring sight, should not prove an incentive sufficiently powerful to the study of opthalmic medicine and surgery, their case must be deemed desperate;

unless, indeed, their minds, insensible to higher feelings and nobler motives, should obey the impulse of self-interest and fear; unless they should be affected by the prospect of disgrace and injury, which ignorance and its inseparable blunders must entail." Again, "It often depends on the surgeon whether the patient shall retain or lose, recover or remain bereft of vision." The serious responsibility with which this sentence must impress every conscientious Oculist, should be sufficient to turn his most anxious attention to every case that comes under his treatment. It is duly acknowledged by Dr. Lawrence, as by all other writers on that subject, that the Germans have had the greatest share in advancing our knowledge of Opthalmic Diseases. We now come to the subject for which this chapter was intended:

GLASSES.

In order that the action of Spectacles may be clearly understood, we will, before entering upon the subject, explain the effect of the different kind of lenses upon rays of light.

There are six varieties of the common lenses:

1. The *double convex* lens is bounded by two convex spherical surfaces, each of whose centres is on the axis of the lens only on the sides opposite to their surfaces.

2. The *plano-convex* has one side convex, the other plane.

3. The *meriscus* has one surface convex, the other concave, and the surfaces meet if continued.

4. The *double concave* is bounded by two concave spherical surfaces, whose centres are on the same sides of the lens as their surfaces.

5. The *plano-concave* has one surface plane, the other concave.

6. The *concavo-convex* has one surface concave and the opposite convex, but these do not meet if continued.

The first three magnify.

The action of concave lenses upon light is precisely the converse of the action of convex lenses. Concave lenses render the rays divergent.

When a convex lens is properly worked, it should exactly represent two segments of the

same sphere, or of two different spheres with their plane surfaces in opposition, and placed in the same axis. Then only does it give a clear and distinct image of the object submitted to its action. If the working of the lens be not accurate, every variation from the true curvature will interfere with refraction and the perfect definition of the image, points of much importance in lenses used to assist vision. The same remarks apply to concave lenses. Mr. Gaesemacker, a Belgian Optician, has published some particulars of the early history of Spectacles, which differ from those generally received. Chevalier and Dr. Sichel have written most instructively on that subject, and we have diligently consulted them in the course of compiling these pages, but we agree with Cooper, from whom we copy, that whether the actual credit of the discovery rest with Roger, Bacon, Messandro di Spina, or Salvinus Armatus, a Florentine, is not of much moment, especially as there seems to have been no distinct rule to their application until the time of Maurolicus, of Messina, who lived about 1575. He it was who

pointed out the real cause of myopia and presbyopia, and explained how concave Glasses rectified the former and convex Glasses the latter. To him and to the original discoverers, mankind owes a debt of gratitude, for it is not too much to say that through the aid of Spectacles we continue in the enjoyment, even in old age, of one of the most noble and most valuable of our senses."

The refracting or optical part of the Spectacles is made of glass or pebble. When glass is used for refracting purposes, it must be perfectly colorless, homogeneous, free from specks, veins, or air-bubbles. Pebbles should also be free from specks or veins. They are superior to glass inasmuch as they do not scratch, but retain their polish. They are dearer than glass, being much more difficult to work.

The mode of making Spectacle-glasses and lenses generally is as follows: —

A piece of glass, of a thickness proportionate to the convexity or concavity of the intended lenses, is cut into small squares with a diamond; after these small squares have had their corners

snapped off, they are fixed with cement to a metal tool, the concavity or convexity of which corresponds to the curve they are intended to receive.

They are then worked by hand, or machinery, on the smoothing tool, which latter must be perfectly true, and of a radius in accordance with the focal lengths of the intended lenses. They are worked with a peculiar kind of eccentric motion, which is found to give equal friction to all parts of the surface. After the lenses have been thus gradually rounded into shape, and smoothed by emery powder of different degrees of fineness, prepared for the purpose, they are subsequently polished with oxide of tin, commonly called *putty,* which is laid on a polisher made of felt and cement, and formed to the curve of the smoothing-tool. When one side of the lens is completed, the other side is subjected to a like process, and when both sides are perfectly polished, all that is required is to cut and grind the edges to fit the Spectacle-frames. The material of which the frames are composed is usually silver, German silver, steel, horn, gold. The

blue steel frame is preferable to all, and now most frequently employed; they are manufactured to the thinnest extent and utmost limit which the art admits, and are called invisible Spectacles.

There is one point of considerable importance which is often disregarded — viz., the fitting of the Spectacle-frame so that the centre of each glass shall be exactly opposite to the Pupil of the corresponding Eye. A moment's reflection will show how important this is, and yet in the majority of cases this fact is entirely lost sight of in the selection of Spectacles. A person finds when he goes to a store to purchase a Glass, a number of lenses are handed to him; he looks through one: he sees delightfully with it and forthwith orders Spectacles of that power. He tries them on as soon as he receives them, anticipating with eagerness the comfort they will afford him; instead of which he finds that he can hardly see at all, or if he does, his Eyes soon feel fatigued. The Glasses may be right, the error is in the frame. Unless the width between the Eyes is such, that the centre of each glass is

exactly in front of the Eye which it is to assist, the rays that pass through the lens will not all enter the Pupil, and the Spectacle will be comparatively valueless, and yet many of those who sell Spectacles are themselves ignorant of that fact. Care should be taken, then, in every case, to have the bridge made of such a curve and such a width that the position of the lenses, as regards the Eyes, shall be perfect, both horizontally and vertically.*

Dr. Smee, who has contrived a very ingenious instrument to measure the width accurately, remarks : "The same person who would scorn to buy the ready-made coat constructed at random and not accurately fitted to his person, will nevertheless take the ready-made Spectacles without paying any attention, apparently forgetting that the same personality which requires his coat to be accurately adjusted to his person extends to all parts of the body, and requires a peculiar adaptation for contrivances intended to fit the

* Every Spectacle bought of Dr. von Moschzisker is warranted to be correct in all its optical points and setting.

Eyes. Single Eye-Glasses, or Quizzing-Glass (as it is termed), which are so frequently seen stuck on the Eye by exquisites, or as "Punch" once styled them, "Monkey-men," are very injurious, and many young men who from shortness of sight or affectation have thought proper to use them, have had reason to regret it to the end of their lives, and the sooner they get rid of them the better.

Many persons are very careless by allowing their Glasses to become dim with moisture and dirt, and wiping them with the first thing that comes to hand — their coat-tails or pocket-handkerchiefs; but if they wish to keep their Glasses in a good state, they should clean them with a piece of wash-leather that has been freed from the yellow ochre used to color it, and which they can always keep about them.

SHORT RULES

FOR THE

PRESERVATION OF SIGHT.

1. The Eye, when inflamed, should be kept in absolute rest.

2. Foreign bodies between the Eye-lids should be immediately removed by everting the lids.

3. Sudden impairment of vision portends serious mischief and requires the immediate aid of the Oculist.

4. Mattery Eyes are highly contagious and dangerous. Squirt between the Eye-lids a lotion made of a drachm of alum to the pint of water every quarter of an hour.

5. Accidents to the Eye should be treated by cold cloths, darkness and rest till the arrival of the surgeon. On no account touch the Eye, as pressure may destroy it.

6. When the lining membrane of the Eye-ball is irritated by injudicious use, an eye-water may

be employed consisting of a scruple of alum, a tablespoonful of spirit of wine, in half a pint of rose-water.

7. Irritation of the Eye-lids may be treated by smearing their edges with an ointment composed of one part of the ointment of the *red oxyde* of mercury diluted with ten parts of lard, free from salt.

8. The Eye should never view an intense light. The light of a flame should never fall upon any part of the Eye during use.

9. An unsteady flame is hurtful during reading or writing.

10. Persons who write much, especially in the evening, should use "blue wove" paper in preference to that yellowish white or what is called "cream laid."

11. Persons with feeble sight or irritable Eyes should not sleep with their couches facing the window, nor should their writing-table be in that position.

12. Reading by fire-light, or simply gazing at the fire when sitting alone or in a contemplative

mood, is highly injurious to feeble Eyes, and should be avoided by all.

13. Persons should not read or sew by twilight; too little light is as pernicious as too much.

14. In reading and writing, just that amount and quality of light, whether natural or artificial, should be allowed, which, while it thoroughly illuminates the object, feels grateful and pleasant to the Eyes. This desideratum can never be obtained without due regard to the position of the light. The light cast upon a book whilst the candle is in front is by no means pleasant, and the glare of the flame is very trying to the Eyes, particularly to weak Eyes. It will be found that if the candle, lamp, or gas-burners are so placed as to be behind the reader, a little elevated and slightly on one side, the pleasantest and least injurious effect is produced, for the light then reflected to the Eyes is perfectly protected from the heat and glare of the flame. It is our intention shortly to issue a little work on Artificial Light, but we may here remark that it would be

well if more attention, either in private or public buildings, was paid to the position of the lights.

15. Reading during railway travelling is hurtful, because of the constant unsteady motion which is imparted to the book.

16. The observation of close objects during rapid locomotion is trying and detrimental to vision.

17. Glasses of neutral tint, blue or green color, may be employed to protect the Eyes from a bright sun in the middle of day; but they are injurious when the light is not painfully intense.

18. Rapid transition from darkness to intense light is liable to be followed by blindness.

ARTIFICIAL EYES.

Simple inflammation, if not rightly treated, is apt to destroy vision. The globe, after severe inflammation or extensive traumatic damage, is apt to be so much injured that it collapses, shrivels up, becomes unnourished, and wastes away. These cases exhibit a most unsightly appearance, especially where one eye is destroyed; and the ingenuity of man has been taxed to provide a remedy in the shape of a false or artificial Eye. These artificial Eyes are made of soft enamel and glass, and are tinted so as exactly to correspond with the color of the sound Eye. The artificial Eye sits comfortably on the collapsed globe, and sometimes moves as freely as a sound Eye. It can be readily taken out and replaced, so that it is the constant practice to remove it at night. Some persons entertain the ridiculous idea that a painful operation is required for the insertion of a false Eye, but we can assure them that this is not the case. The improvements

which have of late been effected by the French in artificial Eyes, render the imitation so perfect that not only is the casual observer deceived, but even the professional man may not detect the substitute. Let not the reader think that I am in jest in recommending him to beware of a false Eye, for I have heard of a case where a fair lady wore a false Eye, which her husband never detected before marriage, and not till nearly two years had elapsed did he discover it. Before marriage she never dared tell him, and afterwards she feared to avow her concealment. I actually once met with a case where a very fair and beautiful damsel, having two Eyes with irises of different color, desired a false Eye to cover the color of that which she disapproved, and nothing but my assurance that it is a mark of great beauty caused her to be satisfied with both Eyes. We once met with the following lines:

"I would say thy dark eyes' glances
All the burning stars surpass;
But perchance they are not real—
One at least may be of glass."

But, I may say, every physician will indeed confer great good by pressing the use of false Eyes in all suitable cases of lost Eye, for in the working classes of society, a lost Eye, from its unsightly appearance, prevents the sufferer from obtaining occupation; and in the upper, it frequently forms a bar to social intercourse. Besides the removal of deformity, the presence of the false Eye may be of essential service in keeping the lids in their natural position, and preventing the Cilia from irritating the shrunken globe; in placing the Puncta in a more natural position for conveying away the tears; in acting as a defence against intruding bodies, which are apt to be retained within the lids and to produce irritation; and as a means of keeping the cavity free from collections of lachrymal secretion.

DISEASED STATE OF VISION.

There is a disease which may truly be called dimness of vision. By this term, we mean that the ordinary amount of light does not seem sufficiently to excite the Retina; in fact, even in strong light, the Retina appears to be imperfectly stimulated to action. Such a state you will frequently find in those who try their Eyes to a great extent with minute work, as, for instance, seamstresses, watch-makers, engravers, compositors of small types, and other trades requiring constant and minute use of the visual organs. Let the patient seek early advice if he believes his sight is failing. Somewhat similar to dimness of vision, we observe a class of cases which come under the denomination of night blindness. It is sometimes called hen blindness, because it is said that hens cannot well see at dark. Night blindness generally arises from intense excitement of the Retina, either from the reflection of the sun

from the water, (which is so injurious to sailors, and ought to be guarded against by those who are lovers of the sport of fishing,) or from the reflection which takes place from white chalky cliffs, or ground covered with snow.

There is a disease called painful vision, which is found in various cases. In some instances, preternatural sensibility exists from the state of the Retina; in other cases, it arises from active diseases in the Eye. At one time, it is a merely unpleasant feeling; at another, it is exalted to absolute pain, constituting painful vision, or, as it has been termed by some writers, photophobia. Short sight, or sight where the image is formed before the Retina in some part of the vitreous humor, is a disorder which doubtless is most congenital; and which consists in a too great refracting power in relation to the distance of the nervous expanse. In some instances, the anterior part of the Cornea, which ought to remain as a fixed point, appears to give way and to be prolonged forwards, producing that condition which is usually called conical cornea, and which is apt

to increase till vision is comparatively useless, from the impossibility of properly bringing to a focus the image upon the Retina.

We cannot too highly estimate the value of attention, care, and practice in rectifying the short-sighted state of the Eye; and on several occasions I have dissuaded the parents of young persons from precipitately rushing to the Optician for short-sighted Spectacles, and have frequently had the satisfaction of observing, that after six months or so, the sight has very materially improved, in fact, so as to render Spectacles unnecessary. Heretofore, cases of short sight have been very extensively confounded with partial near adjustment, but in reality the states are very different, and the mistake is now quite inexcusable, as the Optometer, a most valuable instrument, affords the means of forming a correct diagnosis.

In one or two instances I have met with manifold vision, the party seeing numerous objects where one only existed. This state of vision

would be invaluable to the miser, who values gold more for its quantity than its utility.

There is a curious state of vision which may be called uncertain vision: it occurs when the patient cannot confidently judge of the distance of objects, and at one time seeks to touch objects which are yards from him, and at another receives a violent blow by coming in contact with a hard body which he believes to be distant. This malady, the cause of which is a want of concert of the axis of the Eye, is often very distressing to the patient, but happily within the reach of medical assistance.

Moving vision, or that state where objects at rest appear to be in motion, is generally transitory, and will arise from any cause which will fuddle the head. An extra glass of wine or spirits will generally make that appear in motion which is in reality at rest. It is not always spirituous liquors which cause giddiness; for instance, cold will produce the same result, and various states of the constitution will lead patients to infer that the object regarded is psssing away. If, when a person is in a state of semi-intoxication

you stand directly opposite to him, and slowly bend your body laterally, like a pendulum, and declare that he cannot see straight, it will produce the most uncomfortable sensation, and he will believe that he himself, and not you, is in motion, and the ridicule of his ludicrous position will make him wish that he were a disciple of Father Mathew rather than of Bacchus.

We also meet occasionally with cases of voluntary blindness, and this even among scientific men, who are unable, during the fit, to see a fact which happens to be disagreeable to them, magnify it ever so big; or if they do see it, they will distort it to suit some preconceived idea, or to support some imaginary theory. Young ladies and beardless lovers suffer from that disease. Cases of obstinate blindness are also not very uncommon; disobedient daughters and fast young men are decidedly laboring under that malady.

It is not within the province of this book to consider cases of insane thought, where the mind sees that which never happens, nor to dwell upon cases of poetic fancy, where the imagination

conjures up places, persons, or things for study, amusement, or contemplation. But as, in the physiology of the Eye, we are upward led to the consideration of the mystery of the personality of mind and life, so the pathology of the same subject elevates the thoughts to the consideration of the properties of that mysterious mind, which re-acts upon the organs of sense, and causes them to restore bygone events which made a deep impression at the time of their occurrence. The immortal Shakspeare makes conscience bring to light a past event, and the murderer's accomplice to exclaim, "Yet here's a spot." That which is seen, he endows with odor; and she calls out, "Here's the smell of blood still!" And the noise which occurred at the same time as the event which re-appeared he expresses by — "There is knocking at the gate!" Lastly, as if to complete the perfection of the visual apparition, he makes her act upon the apparition and endeavor to wipe out the ideal dye, and to exclaim, "Out, damned spot!" On which the doctor in amaze-

ment declares, "More needs she the divine than the physician."

Dr. von Moschzisker being satisfied that many of the cases of *diseases* of the *Eye* that are presented to him for treatment, result from the use of Glasses entirely unadapted to the defect that they were intended to remedy, has imported a stock of superior *French* and *English Eye-Glasses* of every variety. He has also provided himself with Chevalier's *highly ingenious instrument* for ascertaining accurately the focus of the Eye. Dr. M. is supportec in the above opinion by one of the most eminent of the European Oculists, who insists that a majority of cases of flattening of the Cornea, amaurosis, &c., are brought on by the use of badly-constructed Glasses, or such as are not suited to the Eye.

Dr. Moschzisker, Oculist and Aurist, gives his exclusive attention to Diseases of the Eye and Ear. Office, No. 34 Hanover Street, first door north of Lombard Street.

Professor Critchett, in a Lecture delivered at the Royal Opthalmic College, London, says: "It must be conceded by all pratical Opthalmic Surgeons that there is no section of medical science, respecting which the profession, as a body, possess so limited a knowledge as of Diseases of the Eye. It is frequently our painful duty to have cases brought to us in which vision has been permanently damaged, and even destroyed, where an early recognition of the nature of the disease and suitable treatment would have ensured the safety of the organ." The separation of the Opthalmic department from the rest of surgical practice has existed long before we had Dentists. The Greeks, Romans and Mabians had their Oculists. No one would think to apply to a Physician for any disease of the teeth. All operations in Dentistry belong to the Dentist. Let all those who value their sight early seek the advice of a professional Oculist.

Dr. von Moschzisker, Oculist and Aurist, has, during the last four years of his residence in this city, most successfully treated almost every dis-

ease to which the Eye is subjected, and some in their very worst stage. Dr. M. gives his exclusive attention to the Medical and Surgical treatment of all Diseases of the Eye and Ear. Artificial Eyes inserted.

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LETTER FROM PROFESSOR MONKUR TO DR. VON MOSCHZISKER.

Professor Monkur having recently recommended to the care of Dr. von Moschzisker a young lady whose sight was almost entirely destroyed by disease, and who was completely cured by Dr. Moschzisker, Professor Monkur has very kindly sent the Doctor the following flattering testimonial, which is published by his permission:

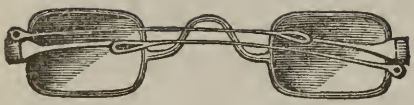
Baltimore, May 28th, 1855.

To Dr. F. A. von Moschzisker:

Dear Sir—By your request I have to-day seen the young lady whom I sent you for treatment in her case of amaurosis. She has perfectly

recovered from her blindness, and is now en joying excellent health. When she was submitted to your professional charge, her sight was seriously impaired, and offered for the future an entire loss of it. I am happy to express to you my conviction that by your attention, judgment and skill she has been saved from the greatest deprivation that could have befallen her. With this occasion, my dear Doctor, you will allow me to express the high opinion, from personal observation, I entertain of your professional capabilities as an Oculist and Aurist. That your success in these specialities may be commensurate with your merits, I remain truly your friend. JOHN C. S. MONKUR.

Dr. von Moschzisker's office is No. 34 Hanover Street. Dr. M. is already well known as an Oculist and Aurist. His exclusive attention is given in the treatment of all diseases of the Eye and Ear. Artificial Eyes inserted.



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